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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,026	08/20/2001	Kazuhiko Fukuta	1035-337	5231

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EXAMINER

CHUNG, DAVID Y

ART UNIT PAPER NUMBER

2871

DATE MAILED: 06/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/932,026

Applicant(s)

FUKUTA ET AL.

Examiner

David Y. Chung

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 7-12, 14 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-4 and 13 rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al. (JP 11-305250).

As to claims 1-3 and 13, Yamamoto et al. discloses a flexible substrate for mounting a driving IC that allows the panel substrate of the display panel to be reduced while increasing display capacity. Note in figure 1, flexible substrate 1, input terminal 5, segment output terminal 8, and driving IC 2. The flexible substrate is folded into a U-shape as shown in figure 2. A printed wiring substrate having a control IC can be mounted to the back surface of the flexible substrate such that the control IC is connected to input terminal 5.

As to claim 4, Yamamoto et al. discloses a conductive rubber 15 in figure 3. The conductive rubber is provided in the U-shaped structure of flexible substrate 1 and acts as a spacer for fixing the U-shaped structure.

2. Claims 1-4 and 13 rejected under 35 U.S.C. 102(b) as being anticipated by Maruyama (JP 09-288278).

As to claims 1-3 and 13, Maruyama discloses arranging a backlight between a liquid crystal display element and a flexible circuit board in order to simplify structure and reduce cost. Note in figures 1 and 2, liquid crystal display element 1, flexible circuit board 2, liquid crystal drive IC 9, back light 3, anisotropy electric conduction film 8, and connection terminal 11a. The flexible circuit board is folded into a U-shape as shown in figures 1 and 2. A printed wiring substrate having additional circuit elements can be mounted to the back surface of the flexible substrate so that the additional circuit elements are connected to terminal 11a.

As to claim 4, Maruyama discloses an interstitial segment material 6 in figures 1 and 2. The interstitial segment material is provided in the U-shaped structure of flexible circuit board 2 and acts as a spacer for fixing the U-shaped structure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 5 and 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. (JP 11-305250).

As to claim 5, Yamamoto et al. does not disclose that the conductive rubber 15 in figure 3 has any adhesive properties. However, it was well known and obvious to provide adhesive properties to various elements of a display assembly in order to securely fasten these elements together and ensure the structural reliability of the display assembly. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to make the conductive rubber in figure 3 of Yamamoto et al. an adhesive agent in order to ensure the structural reliability of the display assembly.

As to claim 6, Yamamoto et al. does not disclose that the flexible substrate 1 is made of polyimide and has a thickness of 40 μm or less. However, it was well known and obvious to make a flexible substrate from polyimide because of the durability and flexibility of polyimide. It was well known and obvious to make the thickness of the flexible substrate 40 μm or less so that the U-shaped structure could be reliably maintained. Therefore, it would have been obvious to one of ordinary skill in the art at time of invention to make the flexible substrate of Yamamoto et al. of polyimide with a thickness of 40 μm or less because of the aforementioned reasons.

Art Unit: 2871

4. Claims 5 and 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama (JP 09-288278).

As to claim 5, Maruyama does not disclose that the interstitial segment material 6 in figures 1 and 2 has any adhesive properties. However, it was well known and obvious to provide adhesive properties to various elements of a display assembly in order to securely fasten these elements together and ensure the structural reliability of the display assembly. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to make the interstitial segment material 6 in figures 1 and 2 of Maruyama an adhesive agent in order to ensure the structural reliability of the display assembly.

As to claim 6, Maruyama does not disclose that the flexible circuit board 2 is made of polyimide and has a thickness of 40 μm or less. However, it was well known and obvious to make a flexible circuit board from polyimide because of the durability and flexibility of polyimide. It was well known and obvious to make the thickness of the flexible circuit board 40 μm or less so that the U-shaped structure could be reliably maintained. Therefore, it would have been obvious to one of ordinary skill in the art at time of invention to make the flexible circuit board of Maruyama of polyimide with a thickness of 40 μm or less because of the aforementioned reasons.

Art Unit: 2871

Election/Restrictions

5. Applicant's election without traverse of Specie III (claims 1-6 and 13) in Paper No. 6 is acknowledged.

Claims 7-12, 14 and 15 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 6.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Chung whose telephone number is (703) 306-0155. The examiner can normally be reached on Monday-Friday from 8:30 am to 5:00 pm.



David Chung
GAU 2871
06/01/03